FORECAST REQUIREMENTS FOR UNITED STATES OPERATIONS

1. Detailed Forecasts For Site

   a. Weather
   b. Clouds
   c. Visibility
   d. Surface winds

2. Wind forecasts for US at 65 to 70,000 feet.

3. Detailed cloud forecasts for all U.S.

4. Forecasts for shuttle operations and cross country flights

5. Development of techniques to forecast 50 Mb winds from 300 Mb data.

FORECAST REQUIREMENTS FOR OVERSEAS OPERATIONS

1. Forecasts will be required simultaneously for the USSR by three or four units of this project. Elements of these units will be located in Washington, up to 4 bases in Europe and the Near East, and 2 bases in the Far East.

2. Forecasts will be required by units as follows:

a. Headquarters Division

(1) Five-day forecasts for all USSR.

(2) Three-day forecasts " " "

(3) 24-hour forecasts " " "

(4) Terminal forecasts

b. Each Detachment and Flight Planning Unit

(1) Five-day forecasts for its area of USSR.

(2) Three-day " " " " " "

(3) 24-hour " " " " " "

(4) Take-off minus 6 hours for planned flights.

(5) Final check forecast for flights.

(6) Terminal forecasts.

(7) Forecasts for transport aircraft upon request.

3. Elements of various forecasts follow:

a. Five-day forecasts

(1) At the professional discretion of the forecaster, he will issue five-day forecasts for expected suitable areas of the USSR using the following definitions:

(a) Much above normal: Those conditions for which the probability of suitable areas occurring within a quadrant exceeds three times the normal expectancy.

(b) Above normal: Those conditions between normal and much above normal.

(c) Normal: Climatological expectancy of suitable conditions for the five-day period.

(d) Below normal: Those conditions between normal and much below normal.

(e) Much below normal: Those conditions in which the probability of suitable areas occurring within a quadrant is less than 1/3 the normal.

b. Three-day forecasts:

(1) Will be issued to each element of the project by 0730L each day.

(2) Will delineate those areas which are expected to be suitable during daylight hours for the following three days.

c. 24-hour forecasts:

(1) Will be issued to each using agency by 1600L each day.

(2) Will contain cloud cover for the daylight hours of the following day for the USSR.

(3) Will contain visibility forecast for daylight hours of the following day for the USSR as specified.

(4) Will contain wind forecasts for routes and targets as specified.

(5) Will contain forecasts for terminal conditions for all bases whose uses are contemplated.

d. Forecast for take-off minus 6 hours:

(1) Complete forecasts for bases, routes and targets for each planned flight.

(2) Will be issued so as to be available to using agencies 6 hours before take-off of aircraft.

e. Final check forecast:

(1) Will be issued to using agencies 3 hours before take-off of aircraft.

(2) Will contain changes to previous forecasts for bases, routes and targets.

f. Route forecasts for transport aircraft:

(1) Forecast of standard meteorological phenomena for specific routes upon request.

4. Following are breakdowns of the requirements for detail, accuracy, and critical values of various meteorological elements.

a. Departure Base

(1) Clouds

(a) Critical value of ceiling _____ feet

(2) Visibility

(a) Critical values _____ mile

(3) Surface winds

(a) Critical values

/1/ Cross wind component _____ Kts.

/2/ Component parallel to runway _____ Kts.

/3/ Maximum gusts _____ Kts.

(4) Icing Conditions

Critical conditions _____

b. Landing Base

(1) Clouds

(a) Critical ceiling ____ feet

(2) Visibility

(a) Critical value ____ mile

(3) Surface winds

(a) Critical values

/1/ Cross wind component ____ Kts.

/2/ Component parallel to runway _____ Kts.

/3/ Maximum gusts ____ Kts.

(4) Icing conditions

(a) Critical conditions _____

c. Alternate

(1) Requirements identical to point of landing.

d. Routes from Bases to USSR

(1) Winds

(a) 40,000 ft. MSL

(b) 50,000 ft. MSL

(c) 60,000 ft. MSL

(d) 70,000 ft. MSL (most important)

(2) Accuracy required

(a) Final forecast:

Cumulative vector error of the forecast for any route not to exceed five percent of the distance of the route.

(b) Planning forecast:

Cumulative vector error not to exceed eight percent of the distance of the route.

e. USSR

(1) Clouds

(a) Categories

/1/ Clear

/2/ Less than 2/8 cloud cover

/3/ 3 to 5/8 cloud cover

/4/ 5 to 8/8 cloud cover

(2) Visibility (only when cloud categories a & b exist)

(a) Visibility restrictions

/1/ Type

/2/ Thickness

/3/ Location

/4/ Intensity

(3) Winds

(a) Levels required

/1/ 40,000 ft. MSL

/2/ 50,000 ft. MSL

/3/ 60,000 ft. MSL

/4/ 70,000 ft. MSL

(b) Accuracy required

/1/ Final forecast:

Cumulative vector error of the forecast for any route not to exceed five percent of the distance of the route.

/2/ Planning forecast:

Cumulative vector error not to exceed eight percent of the distance of the route.

METHOD 1

1. Cost: Separate forecasting units in two overseas theaters and in the United States will consume 178 weather people. This number will be reduced to 131 with cessation of U. S. activity.

   a. People holding Weather AFSC physically assigned to this Project:

Forecasters	Observers
8	3

   b. Air Weather Service people participating in operation in U. S.:

Forecasters	Rawinsonde Operators	Observers
13	10	24

   c. Air Weather Service people participating in operation in Europe:

Forecasters	Observers
31	29

   d. Air Weather Service people participating in operation in Far East:

Forecasters	Observers
31	29

METHOD 2

1. The USAF Weather Central responsible for:

   a. All wind forecasts above 30,000 ft. MSL.
   b. All forecasts of clouds, etc. issued prior to (take-off minus three hours)
   c. All terminals beyond 36 hours.
   d. All terminals not having weather stations regardless of period of forecast.
   e. Advice on three-hour forecasts.
   f. Assistance to any part of Project upon request.

2. Base weather stations are responsible for:

   (1) Forecasts for home terminals for periods of less than 36 hours.
   (2) Cloud forecasts of the USSR for the period take-off minus three hours to landing of aircraft.

3. The cost of weather service under these conditions is estimated as follows:

25X1A6a	A. [redacted] (Possibly 17 with additional data from W. B.)	27
	B. Supplement to main base weather stations (5 each)	15
	C. Weather people physically assigned to the Project	11
	D. Supplement to USAF W. C.	
	(1) For [redacted]	12
25X1A6a	(2) For [redacted] and Europe	57 (Max.)
	(3) For Europe and Far East	57 (Max.)
	TOTAL	110

4. With cessation of training this cost will be reduced to 83 people.

PROPOSED ORGANIZATION AND WORKING RELATIONSHIPS

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